were obtained from bibliography. When this preview doses overcame the applicable dose limits (DL) the number of days that the patient must follow restrictions of permanence with his relatives were calculated.
Results. The variation coefficient (VC) of doses rates among patients was 70% although the VC for the implanted I-125 activity, was only 23%. For sleeping partner only 38% of treatments no required a period of restrictions of permanence. The maximum and average values were 153 and 40 days. Analogous values for pregnant and child < 2 year were 16%, 161 and 58 days. Analogous values for work partner were 80%, 68 and 18 days.
Conclusions. The radiation exposures around patients after prostatic implants have variability. Systematic measurements of each patient in an individualized basis must be done. The 62% and 20% of treatments require period of restrictions to reduce sleeping partner and working partners doses bellow the DL. A spread sheet has been developed to calculate the day after each implant in which the domestic activities of the patient can be recovered.

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Results of treatment of bronchial neoplasm with endobronchial brachitherapy

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Introduction. High Dose Rate Endobronchial Brachytherapy (HDR-EBB) alone or in combination with EBRT, has shown efficacy as a treatment for inoperable lung neoplasms. In Galicia, this therapeutic modality was launched in 2005 in our centre.
Objectives. To describe our experience with this treatment since its inception to the present (7 years).
Patients and methods. We evaluated the local control, survival and complications at both 1 month and 1 year of all cases treated in our hospital. A total of 37 tumours were treated in 31 patients, 84% male, mean age of 65 years. 71% of the tumours were located in the trachea or main bronchi and corresponded mostly (84%) with primary lung cancer. In 20 cases (64.5%) they had curative intent and 11 (35.5%) palliative intent. On 14 occasions, prior External Beam Radiation Therapy was used and in 7 cases was associated with other debulking methods. The treatment was applied in weekly fractions of 5 Gy. The total dose ranged from 10 to 30 Gy in exclusive treatments and 10 to 20 Gy when associated with EBRT.
Results. Overall, after a month of treatment, there was clinical improvement in 73.7% and endoscopic improvement in 87%. For curative treatments, the complete response of the treated area was 70% at 1 month and 66.7% at 1 year. Median survival was 4 months (95% CI 1.8–6.1 months) for palliative treatments and 40 months (95% CI 25.9–54 months) for curative treatments. There were serious complications in 9.7% of cases, 1 massive hemoptysis, 1 severe bronchospasm and 1 severe arrhythmia.
Conclusion. In our experience, the HDR-EBB, is an effective method for palliative treatment of lung cancer with an acceptable complication rate. The HDR-EBB with curative intent is a treatment to consider in selected cases. Our results are comparable to those reported by others.

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Salvage high-dose-rate brachytherapy for local prostate cancer recurrence after radiotherapy

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Objective. The aim of study is to describe our experience with high-dose-rate brachytherapy salvage for local prostate cancer recurrence after radiotherapy.
Materials and methods. We performed descriptive and retrospective study for 4 patients undergoing salvage HDR brachytherapy for locally recurrent prostate cancer after external radiotherapy between October 2001 and December 2012. With histological confirmation and negatives extension studies.
Results. Mean age at diagnosis 66.2 years (56–76), median follow-up 103 months (73–122), mean PSA at diagnosis 9.7 ng/ml (5.9–13). Mean Gleason 7 (6–8). One-half of the patients had a high risk according to the criteria D'Amico. Average dose of EBRT was 66.3 Gy (60–70.2), only one patient received brachytherapy boost with HDR. The sequence of treatment in this patient was 60Gy EBRT and brachytherapy boost 10 Gy in two fractions. Finally salvage with 34 Gy in 4 fractions of 8.5 Gy. In all cases adjuvant hormone (6–12 months). The mean nadir PSA after EBRT was 0.053 ng/ml (0.04–0.08). The median time to biochemical recurrence was 77 months (56–110), with a PSA mean 4 ng/ml (1.5–6.7). Positive biopsy in all cases. Brachytherapy HDR rescue using transrectal ultrasound-guided 29.2 Gy mean dose (25.5–34) in 3–4 fractions with interval of 6 h. Mean coverage 89% (83–96.5), rectum V70% 1.8 Gy (0.34–4.51) in urethra V120% (0%). No complications during treatment. Mean PSA last 0.17 ng/ml (0.04–0.58). 2 patients are alive, free of disease and symptoms, 1 carrier a colostomy for important rectal bleeding, and 1 death non cancer specific reason.

Conclusion. Salvage HDR prostate brachytherapy appears to be feasible and effective. However we think that in patients with local recurrence after EBRT more HDR brachytherapy, should be propose another therapeutic option in the rescue, for its possible side effects.

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Salvage I125 brachytherapy for local prostate cancer recurrence after radiotherapy

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Introduction. Depending on prognostic factors, between 10 and 60% of prostate cancer patients treated with radiation therapy can develop local recurrence. The only radical strategy for these patients, although not without complications, is local treatment. I125 brachytherapy seems an alternative to achieve disease control.
Objective. Retrospectively to analyze short and intermediate-term outcomes and toxicity after salvage BT with I125 for local failure after BT or EBRT for prostate cancer.
Material/methods. From November 2006 to September 2012, 22 patients with PSA relapse (Phoenix definition for those with previous AD and ASTRO definition for the rest), after histological confirmation with template-guided biopsy, underwent salvage BT with I125 at least 2 years ago from initial treatment (8 BT and 14 EBRT). At relapse, average age was 71 years old (58–82), median Gleason was 7 (not determinated-9) and PSA pre-salvage BT 5.95 ng/ml (2.81–11.7). 5 patients were treated with AD previously salvage BT. The median dose to 90% of prostate volume was 128.8 Gy (84.18–151.47) with a median seed activity of 0.461 mCi (0.319–0.518). Constraint doses for urethra and rectum were 162 Gy and 120 Gy respectively. Toxicities were graded using CTCv4.0.
Results. With a median follow up was 18 months (2–60), 16 (72.7%) patients are freedom from biochemical failure. 6 patients have developed PSA relapse (2 with distant failure evidence and 2 within the first 6 months). There were 2 Grade 3 toxicities (TURP after acute urine retention) and 2 Grade 2 toxicities (acute rectal mucositis and acute cystitis in the same patient).
Conclusion. Despite of the short follow-up in some patients, BT is a safe and effective treatment option for salvage treatment, but careful patient selection is essential to improve outcomes.

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Selection criteria for IC/IS MR based IGABT for cervical cancer

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Introduction. At our institution 3D MRI based Intracavitary (IC) or Intracavitary/Interstitial (IC/IS) Brachytherapy protocol has been recently introduced for cervical cancer. Our criteria to select the IC/IS approach are: (a) large tumors with poor response to EBRT that cannot be covered with IC alone. (b) Patients with unfavourable OARs topography (independently of the tumor size). (c) Tumors with large residual GTV after EBRT where higher HRCTV/GTV dose might be desirable.
Materials and methods. For 3 patients representative of the mentioned criteria, DVH parameters have been investigated, comparing 2 clinical plans (prescription 4sessions × 7 Gy) for each patient, IC/IS and IC only. (a) Large FIGO IIIB tumor (pelvic wall) with poor response. Tumor width of 7.3 cm at diagnosis, and 6.0 cm at time of BT was treated with Utrecht IC/IS applicator and 2 parametrial needles per side (Nucletron, Veenendaal, The Netherlands). (b) Small FIGO IIB tumor with minimal unilateral proximal parametrial invasion (cervix width of 3.5 cm at diagnosis and 3.5 cm at BT time), with good response and unfavourable OAR topography because bowel loops are proximal to the target. (c) FIGO IIB tumor with proximal unilateral parametrial invasion, with large residual GTV (tumor width of 5.0 cm at diagnosis and 3.5 cm at BT).
Results. (a) IC/IS method HRCTV coverage is D90IC/IS = 7.9 Gy while for IC is D90IC = 6.7 Gy (difference of 18.1%), this means V100IC/IS = 97.4% vs. V100IC = 86.9% with the same OAR dose. (b) HRCTV-D90IC/IS = 7.4 Gy vs. D90IC = 6.8 Gy (increase D90 in 9% and increase V100 in 10%) for the same dose to the most restricting OAR. D2cc (Bowel Loops) = 4.6 Gy. (c) For cases where a dose increase to the GTV is preferable, GTV-V150IC/IS is 18.7% higher (89.2% vs. 75.3%) and GTV-V200IC/IS is 62.0% higher (40.5% vs. 25.0%).
Conclusion. In our experience, the implementation of the IC/IS is justified by our preliminary dosimetric results.

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